

<p>DOCKET NO. 436 – Message Center Management, Inc. and New Cingular Wireless PCS, LLC Application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at one of two sites: 465 Hills Street or 56 Hills Street, East Hartford, Connecticut.</p>	<p>} Connecticut } Siting } Council } July 25, 2013</p>
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Findings of Fact

Introduction

1. Message Center Management, Inc. (MCM) and New Cingular Wireless PCS, LLC (AT&T) collectively referred to as the Applicant (Applicant), in accordance with provisions of Connecticut General Statutes (C.G.S.) § 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on February 14, 2013 for the construction, maintenance, and operation of a 100-foot wireless telecommunications facility at either 465 Hills Street, referred to as the Site A, or at 56 Hills Street, referred to as the Site B, in East Hartford, Connecticut. Either tower would be constructed as a monopole with evergreen camouflage. (Applicant 1, pp. 1, 3-4)
2. MCM is a Connecticut corporation with offices at 40 Woodland Street, Hartford, Connecticut. MCM owns and/or operates numerous facilities in the State of Connecticut. MCM would construct, maintain and own the proposed tower facility. (Applicant 1, p. 4)
3. AT&T is a Delaware limited liability company with an office at 500 Enterprise Drive, Rocky Hill, Connecticut. The company's member corporation is licensed by the Federal Communications Commission (FCC) to construct and operate a personal wireless services system. The company does not conduct any other business in the State of Connecticut other than the provision of wireless services under FCC rules and regulations. AT&T would install, maintain and own its wireless facility components at the proposed facility. (Applicant 1, pp. 4-5)
4. The party in this proceeding is the Applicant. (AT&T Wireless 1, p. 1; Transcript 1- 3:07 p.m. [Tr. 1], p. 3)
5. The purpose of the proposed facility is to provide reliable wireless telecommunications services in the vicinity of Hills Street, Oak Street, and other local roads as well as homes and schools in the southeastern area of East Hartford. (Applicant 1, p. 1)
6. On May 31, 2013, the Applicant revised its tower proposal to include a 110-foot telecommunications facility with a total height of 117 feet above ground level (agl) to accommodate the antennas of the East Hartford Fire Department (EHFD). (Applicant 5, p. 1)
7. Pursuant to C.G.S. § 16-50m, the Council, after giving due notice thereof, held a public hearing on June 6, 2013, beginning at 3:07 p.m. and continuing at 7:00 p.m. at the East Hartford Town Hall, 740 Main Street, East Hartford, Connecticut. (Council's Hearing Notice dated March 8, 2013; Tr. 1, p. 2; Transcript 2 – 7:00 p.m. [Tr. 2], p. 2)

8. The Council and its staff conducted an inspection of the proposed sites on June 6, 2013, beginning at 2:00 p.m. During the field inspection, the applicant flew a 3.5-foot diameter red balloon at Site A and Site B to simulate the height of the proposed towers. The string was set to a height of 115 feet agl. The top of each balloon reached approximately 118.5 feet agl. The balloon flight had periods of good weather where the full height was sustained. However, one balloon was lost at site A shortly before noon. This balloon was replaced within ten minutes. There were a few moments of calm conditions during the Council review. However, the winds generally picked up later and were steady in the eight to ten miles-per-hour range. Overall, the weather conditions were marginal for a balloon flight. (Tr. 1, pp. 12-13)
9. Pursuant to C.G.S. § 16-50l (b), public notice of the application was published in the Journal Inquirer on February 8 and February 11, 2013. (Applicant 3)
10. Pursuant to C.G.S. § 16-50l(b), notice of the application was provided to all abutting property owners by certified mail. Confirmations of receipt for all but six addresses were received either by certified mail receipts or by confirmation through the United States Postal Service (USPS) tracking system. (Applicant 2, response 1)
11. On February 26, 2013, copies of the six unclaimed notices were re-sent by first class mail to the following: Paul and Regina Senecal (Irrevocable Trust Jane Peters Trustee); Lydia Cassarino; Otis Rodgers; Peter Hydock; John Schreiber; and Herbert Bynum and Carlos Vargas Marti. (Applicant 2, response 1)
12. Of the six letters sent on February 26, 2013, one was returned as undeliverable/unable to forward. The address of John Schreiber was confirmed through tax assessor records as well as through publically available telephone/address directories available online. A third notice was sent to Mr. Schreiber on March 15, 2013. This third notice attempt was also returned as undeliverable. (Applicant 2, response 1)
13. Pursuant to C.G.S. § 16-50l (b), the Applicant provided notice to all federal, state and local officials and agencies listed therein. (Applicant 1, p. 6)
14. A revised public notice of the application was published in the Journal Inquirer on May 10, 2013 to include the revised tower height of 110 feet agl. (Applicant 9, Attachment 4)
15. Pursuant to C.G.S. § 16-50l(b), on May 8, 2013, notice was provided to all abutting property owners by certified mail to inform them of the ten-foot increase in tower height at either site. Confirmations of receipt for all but 13 addresses were received either by certified mail receipts or by confirmation through the USPS tracking system. (Applicant's Post-Hearing Submission dated July 8, 2013)
16. On May 28, 2013, copies of the 13 unclaimed notices were re-sent by first class mail. One additional letter was sent to Herbert Bynum and Carlos Vargas Marti after the USPS mistakenly identified the May 8, 2013 letter as being delivered. (Applicant's Post-Hearing Submission dated July 8, 2013)

State Agency Comment

17. Pursuant to C.G.S. § 16-50j (h), on March 8, 2013 and June 7, 2013, the following State agencies were solicited by the Council to submit written comments regarding the proposed facilities: Department of Energy and Environmental Protection (DEEP); Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Agriculture (DOAg); Department of Transportation (DOT); and Department of Emergency Management and Public Protection (DESPP). (Record)
18. The DOT's Bureau of Engineering and Highway Operations responded to the Council's solicitation on April 5, 2013, but had no comments. (DOT Comments dated April 5, 2013)
19. The following agencies did not respond with comment on the application: DEEP, DPH, CEQ, PURA, OPM, DECD, DOAg, and DESPP. (Record)
20. By letter dated June 28, 2013, State Representative Henry J. Genga expressed his opposition to Site A and support for Site B. (Representative Genga Letter dated June 28, 2013)

Municipal Consultation

21. AT&T notified the Town of East Hartford (Town) of the 56 Hills Street proposal on June 20, 2011 by sending a technical report to Mayor Marcia Leclerc. (Applicant 1, Tab 5)
22. Subsequently, MCM and AT&T agreed to pursue sites in East Hartford jointly. On October 19, 2012, MCM commenced a technical consultation with the Town of East Hartford, submitting technical reports for Site A at 465 Hills Street and Site B at 56 Hills Street. (Applicant 1, p. 26)
23. A meeting between MCM and municipal officials, including the Mayor, took place on November 14, 2012 to review details and answer questions regarding both sites. MCM also appeared before the Town Planning and Zoning Commission on November 14, 2012 for the same purpose. (Applicant 1, p. 26)
24. AT&T understood from their various conversations with the Mayor that the Town would generally consider the Site A location over the Site B location based on the comparative visibility of the two tower locations to the overall residential neighborhood in East Hartford. (Applicant 1, Tab 5)
25. By letter dated January 8, 2013, Mayor Leclerc noted that the Town has areas with limited and in some cases no cell coverage. The Town is eager to ensure all residents and users in East Hartford have uninterrupted service. (Applicant 1, Tab 5)
26. By letter dated January 20, 2013, East Hartford Fire Chief John Oates expressed his strong support for Site A because it would enable the East Hartford Fire Department (EHFD) to improve portable radio communication in that area of the Town for effective emergency operations. Also, a tower with AT&T mobile broadband service would improve EHFD mobile computer terminal capability in the event that connectivity for their computer terminals is lost. (Applicant 1, Tab 5)
27. EHFD has evaluated both Site A and Site B and found that Site A provides enhanced coverage in their section of the Town. (Applicant 1, Tab 5)

28. Chief Oates made a limited appearance statement at the June 6, 2013 public hearing before the Council. Chief Oates noted that EHFD recently was awarded a grant from the Federal Emergency Management Agency to improve its emergency communications system. Chief Oates was advised by his telecommunications consultant that, for the greatest microwave communication spread, the telecommunications tower would be more effective the farther south and east it is located within this community. Site A is the farther east and south of the two sites. (Tr. 1, pp. 5-7)
29. William Horan, Vice-Chairman of Town Council, made a limited appearance statement at the June 6, 2013 proceeding. Vice-Chairman Horan noted that a tower is needed for police use, as well as personal use since more and more people stop using land line phones and rely on cell phones. Vice-Chairman Horan believes that the tower belongs at 56 Hills Street (Site B) because it is a working farm. (Tr. 1, pp. 38 and 39)
30. MCM would provide space on either tower for the Town's emergency communication services. EHFD would utilize space for such purpose. (Tr. 1, pp. 13-14)

Public Need for Service

31. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. Through the Federal Telecommunications Act of 1996, Congress seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. (Council Administrative Notice Item No. 4)
32. In issuing cellular licenses, the Federal government has preempted the determination of public need for cellular service by the states, and has established design standards to ensure technical integrity and nationwide compatibility among all systems. AT&T is licensed by the FCC to provide personal wireless communication service to Hartford County, Connecticut. (Council Administrative Notice Item No. 4; Applicant 2, response 3)
33. The Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item No. 4)
34. The Telecommunications Act of 1996 prohibits any state or local entity from regulating telecommunications towers on the basis of the environmental effects, which include human health effects, of radio frequency emissions to the extent that such towers and equipment comply with FCC's regulations concerning such emissions. This Act also blocks the Council from prohibiting or acting with the effect of prohibiting the provision of personal wireless service. (Council Administrative Notice Item No. 4)
35. The Wireless Communications and Public Safety Act of 1999 (911 Act) was enacted by Congress to promote and enhance public safety by making 9-1-1 the universal emergency assistance number, by furthering deployment of wireless 9-1-1 capabilities, and by encouraging construction and operation of seamless ubiquitous and reliable networks for wireless services. (Council Administrative Notice Item No. 6)
36. AT&T's telecommunications service at either site would be in compliance with the requirements of the 911 Act (Applicant 1, pp. 10-11)

37. Following the enactment of the 911 Act, the FCC mandated wireless carriers to provide enhanced 911 services (E911) to allow public safety dispatchers to determine a wireless caller's geographical location within several hundred feet. The proposed facility would become a component of AT&T's E911 network in this part of the state. (Council Administrative Notice Item No. 6; Applicant 1, pp. 10-11)
38. In December 2009, President Barack Obama recognized cell phone towers as critical infrastructure vital to the United States. The Department of Homeland Security, in collaboration with other Federal stakeholders, State, local, and tribal governments, and private sector partners, has developed the National Infrastructure Protection Plan (NIPP) to establish a framework for securing our resources and maintaining their resilience from all hazards during an event or emergency. (Council Administrative Notice Item No. 11 -Barack Obama Presidential Proclamation 8460, Critical Infrastructure Protection)
39. Pursuant to the tower-sharing policy of the State of Connecticut under C.G.S. §16-50aa, if the Council finds that a request for shared use of a facility by a municipality or other person, firm, corporation or public agency is technically, legally, environmentally and economically feasible, and the Council finds that the request for shared use of a facility meets public safety concerns, the Council shall issue an order approving such shared use to avoid the unnecessary proliferation of towers in the state. (Conn. Gen. Stat. §16-50aa)

Existing and Proposed Wireless Coverage – AT&T

40. AT&T's proposed facility would provide 850 MHz (cellular), 1900 MHz (PCS), and 700 MHz (LTE) service. (Applicant 2, response 7)
41. AT&T designs its system for -82 dBm in-vehicle coverage and -74 dBm in-building coverage. (Applicant 2, response 4)
42. AT&T's existing signal strength in the area that would be covered from either proposed facility ranges from less than -100 dBm to -74 dBm. (Applicant 2, responses 17 and 35)
43. The table below indicates the current coverage gaps along the major routes in the area of its proposed facility.

Street Name	Current Coverage Gap in Miles
Hills Street, East Hartford	0.327 miles
State Highway 502, East Hartford	0.080 miles

(Applicant 4, Attachments 1 and 2)

44. The table below indicates the distances AT&T would cover along the main and secondary roads in the area of its proposed facility at various heights.

Street Name	Site A Coverage with Antenna height of 100 feet	Site A Coverage with Antenna Height of 90 feet	Site A Coverage with Antenna Height of 80 feet	Site B Coverage with Antenna Height of 100 feet	Site B Coverage with Antenna Height of 90 feet	Site B Coverage with Antenna Height of 80 feet
Hills Street, East Hartford	0.327 miles	0.327 miles	0.327 miles	0.228 miles	0.198 miles	0.190 miles
State Highway 502, East Hartford	0.043 miles	0.037 miles	0.013 miles	0.043 miles	0.053 miles	0.039 miles
Secondary Roads – East Hartford	6.697 miles	6.112 miles	4.927 miles	2.558 miles	2.236 miles	2.015 miles

Street Name	Site A Coverage with Antenna height of 100 feet	Site A Coverage with Antenna Height of 90 feet	Site A Coverage with Antenna Height of 80 feet	Site B Coverage with Antenna Height of 100 feet	Site B Coverage with Antenna Height of 90 feet	Site B Coverage with Antenna Height of 80 feet
Hebron Avenue, Glastonbury	0.059 miles	0.015 miles	None	0.032 miles	None	0.019 miles
Neipsic Road, Glastonbury	0.152 miles	0.152 miles	0.139 miles	0.049 miles	0.038 miles	0.032 miles
Route 2, Glastonbury	None	None	None	0.042 miles	0.032 miles	0.026 miles
New London Tpke., Glastonbury	None	None	None	0.018 miles	0.028 miles	0.021 miles
Secondary Roads – Glastonbury	1.273 miles	0.895 miles	0.440 miles	0.241 miles	0.220 miles	0.143 miles

Street Name	Site A Coverage with Antenna height of 100 feet	Site A Coverage with Antenna Height of 90 feet	Site A Coverage with Antenna Height of 80 feet	Site B Coverage with Antenna Height of 100 feet	Site B Coverage with Antenna Height of 90 feet	Site B Coverage with Antenna Height of 80 feet
Secondary Roads – Manchester	0.022 miles	0.022 miles	0.017 miles	None	None	None
Secondary Roads – Hartford	None	None	None	0.001 miles	0.001 miles	None

(Applicant 4, Attachments 1 and 2)

45. The table below indicates the total areas AT&T would cover from the proposed facilities at various heights.

Signal Strength	Coverage Area at Site A with Antenna Height of 100 feet	Coverage Area at Site B with Antenna Height of 100 feet
≤ -82 dBm*	0.78 square miles	0.36 square miles
≤ -74 dBm**	1.26 square miles	0.89 square miles

Signal Strength	Coverage Area at Site A with Antenna Height of 90 feet	Coverage Area at Site B with Antenna Height of 90 feet
≤ -82 dBm*	0.65 square miles	0.33 square miles
≤ -74 dBm**	1.05 square miles	0.84 square miles

Signal Strength	Coverage Area at Site A with Antenna Height of 80 feet	Coverage Area at Site B with Antenna Height of 80 feet
≤ -82 dBm*	0.49 square miles	0.28 square miles
≤ -74 dBm**	0.84 square miles	0.73 square miles

*This is the signal strength AT&T considers generally sufficient to provide service within vehicles, otherwise known as “in-vehicle coverage.”

**This is the signal strength AT&T considers generally sufficient to provide service indoors, otherwise known as “in-building coverage.”

(Applicant 2, responses 22 and 40)

46. AT&T’s proposed facility at either site would interact with the adjacent facilities identified in the following table.

Site Location	Distance from Site A Tower	Distance from Site B Tower	Height of AT&T Antennas	Structure Height
287 Main Street, East Hartford	2.56 miles	1.61 miles	65 feet	83 feet
330 Roberts Street, East Hartford	2.71 miles	2.11 miles	62 feet	50 feet
Olcott Street, Manchester	2.61 miles	3.18 miles	165 feet	200 feet
577 Bell Street, Glastonbury	1.84 miles	2.78 miles	65 feet	104 feet
615 Silver Lane, East Hartford	2.19 miles	1.46 miles	150 feet	125 feet
575 Hillstown, Manchester	1.17 miles	1.98 miles	70 feet	80 feet
239 Spencer Street, Manchester	2.24 miles	2.65 miles	98 feet	125 feet
1455 Forbes Avenue, East Hartford	1.39 miles	0.78 miles	120 feet	130 feet

(Applicant 1, Tab 1, p. 9; Applicant 2, responses 18 and 39 and Attachments 1 and 4)

47. The minimum antenna height that AT&T would require to meet its coverage objectives would be 100 feet agl at either Site A or Site B. While more coverage could be achieved with higher antenna height, AT&T proposes 100 feet agl to minimize environmental impacts. (Applicant 1, responses 26 and 43)
48. The ten-foot increase in monopole height from 100 feet to 110 feet is due to the needs of the EHFD. (Applicant 5)
49. From a purely radio frequency standpoint, Site A provides the better coverage. (Applicant 1, Tab 1, p. 5)
50. No other wireless carriers have expressed a firm interest in co-locating at either site at this time. T-Mobile may consider co-locating at some point when their budget permits it. (Tr. 1, p. 27)

Site Selection

51. On November 3, 2010, AT&T established a search ring approximately 1 mile in diameter. The center of the search ring was located at 41° 44' 41.8" north latitude and 72° 35' 45.7" west longitude. (AT&T 2, response 5)
52. AT&T determined that there were no existing tall structures within its search ring because the area consists of mainly residential structures. (Applicant 1, p. 2 and Tab 2)
53. After determining there were no suitable structures within the search area, AT&T searched for properties suitable for tower development. AT&T Wireless investigated 11 parcels/areas, one of which (Site B) was selected for site development. The 10 rejected parcels/areas and reasons for their rejection are as follows:
 - a) 330 Hills Street – The property owner (Town of East Hartford) was not interested in leasing space to AT&T.
 - b) 1301 Forbes Street – This site would not meet AT&T's coverage objectives.
 - c) 985 Forbes Street – The property owner (Joseph and Nicholas Depietro) did not respond to AT&T's attempts to contact them.
 - d) 528 Brewer Street - The property owner (Church of Saint Christopher) did not respond to AT&T's attempts to contact them.
 - e) 173 Forest Street – The site is constrained by wetlands and thus rejected by AT&T.
 - f) 1235 Forbes Street - The property owner (Town of East Hartford) was not interested in leasing space to AT&T.
 - g) 299 May Road – This site would not meet AT&T's coverage objectives.
 - h) 175 Hills Street – This site is constrained by wetlands and thus rejected by AT&T.
 - i) Forbes Street – This site is constrained by wetlands and thus rejected by AT&T.
 - j) 795 Brewer – This site is constrained by wetlands and thus rejected by AT&T.(Applicant 1, Tab 2)
54. A site at Richard E. Gorman Park at 305 May Road was originally suggested to AT&T during its technical consultation with the Town regarding the Site B candidate. However, based on public opposition, in part due to proximity to schools and municipal park facilities, the Town Council Committees decided not to favorably refer consideration of a lease to AT&T. Thus, the Gorman Park site is no longer considered a viable candidate for AT&T. (Application 1, p. 2)

55. MCM did not establish a specific search ring but instead became aware of AT&T's own site search and kept up to date on AT&T's search in the East Hartford area. This included the knowledge of the rejected proposal for a tower location at Gorman Park. (AT&T 2, response 5)
56. In early 2011, MCM received an unsolicited call regarding a potential site at 63 Wickham Drive in East Hartford. As a result of the call, and with an understanding of AT&T's need in the area, MCM began investigating potential alternate locations in the Hills Street area and southeastern East Hartford to identify possible alternate candidates. (AT&T 2, response 5)
57. MCM leased the 465 Hills Street site, which is an abutting property to the unsolicited site that originally brought MCM to the area. Subsequently, MCM and AT&T agreed to work cooperatively on the development of candidate facilities, and MCM obtained the lease rights to the site at 56 Hills Street. (AT&T 2, response 5)
58. In its site search, MCM investigated four parcels/areas, one of which (Site A) was selected for site development. The three rejected parcels/areas and reasons for their rejection are as follows:
- a) 63 Wickham Drive – The site was declined by MCM due to small lot size.
 - b) 370 May Road – The property owner (Church of Our Lady of Peace) was contacted by MCM's representative several times over a period of six weeks to inquire about their interest in leasing space for use as a cell tower. The office administrator informed MCM's representative that the church property would not be made available for leasing and siting a wireless telecommunications facility.
 - c) 441 Hills Street – The property has minimal screening, and MCM decided not to pursue it given other candidates with less visibility.
- (Applicant 1, Tab 2; Applicant 2, response 16; Tr. 1, p.65; Applicant's Post-Hearing Submission dated July 8, 2013)

Facility Description – Prime Site, Site A

59. Proposed Site A is located on a 11.94-acre parcel at 465 Hills Street in East Hartford. The parcel is owned by Henry Krause Revocable Trust (Trustee Heidi McNamar). The parcel is zoned Residential R-2. The Site A location is depicted on Figure 1. (Applicant 1, pp. 14-15)
60. The proposed Site A tower would be located in the central portion of the property at 41° 44' 26.56" north latitude and 72° 35' 2.78" west longitude at an elevation of 89 feet above mean sea level (amsl). (Applicant 5, Sheet T-1)
61. The Site A facility would consist of a 110-foot monopole disguised as a tree with evergreen camouflage within a 75-foot by 75-foot leased area. The monopole would be 60 inches wide at the base tapering to 26 inches wide at the top. The evergreen "top" of the tree tower would reach 117 feet agl. The tower would be designed to support the EHFD antennas and a total of three wireless carriers, including AT&T, with 10-foot center-to-center antenna separation. (Applicant 5, Sheets SP-1 and SP-2; Tr. 1, p. 15)
62. The monopole tower or "tree trunk" would be constructed of galvanized steel that would weather to a non-reflective gray finish. The tower would be constructed in accordance with the American National Standards Institute TIA/EIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structure." (Applicant 5, Sheet SP-2)
63. The tree monopole tower, or monopine, would be designed to be expandable up to twenty feet taller. (Applicant 5, Sheet SP-2)

64. AT&T would install 12 panel antennas on a low-profile platform masked by the tower's artificial branches at a centerline height of 100 feet agl. (Applicant 5, Sheet SP-2; Tr. 1, p. 26)
65. The EHFD would install a two-foot diameter microwave dish masked by the tower's artificial branches at a centerline height of 110 feet. A 4.4-foot tall whip antenna would be attached to the tower at the 110-foot agl level and would reach a total height of less than 117 feet. Thus, the top of the whip would not extend above the top of the faux tree top. (Applicant 5, Sheet SP-2; Tr. 1, p. 52)
66. A 63-foot by 75-foot equipment compound enclosed by an eight-foot shadow box fence would be established at the base of the tower. The size of the compound would be able to accommodate the equipment of a total of five wireless carriers including AT&T, plus the EHFD equipment. AT&T would install an 11-foot 6-inch by 20-foot equipment shelter. EHFD equipment would be installed on a 10-foot by 10-foot concrete pad. (Applicant 5, Sheet SP-2)
67. For backup power, AT&T would utilize a diesel generator. AT&T would also have a battery backup in order to avoid a "re-boot" condition during the generator start-up delay period. The typical run time of the generator before it requires refueling is 48 hours, based on 200 gallons of fuel available. In the event that the generator fails to start, the battery backup would provide approximately four to eight hours of backup power. (Applicant 2, responses 8 and 9)
68. Development of the site would require approximately 325 cubic yards of cut and 350 cubic yards of fill for the access drive, compound, and trenching, as well as 180 cubic yards of crushed stone for the access drive and compound. (Applicant 1, Tab 3)
69. Access to Site A would be provided by a 12-foot wide and approximately 324-foot long gravel drive. The access would begin at the Eagle Court cul-de-sac west of the property, immediately turn to the north, and then turn to the east to reach the compound, while approximately following the property boundaries. Refer to Figure 2. (Applicant 1, Tab 3; Applicant 5, Sheet SP-1)
70. Utilities would be installed underground from an existing pole near the Eagle Court cul-de-sac to the equipment compound. The utilities would generally follow the path of the access drive. (Applicant 5, Sheet SP-1)
71. The presence of ledge is not anticipated, but would be confirmed upon completion of a geotechnical investigation. If ledge is encountered, removal by mechanical means would be performed first. If mechanical means are unsuccessful, blasting would be utilized as required to remove the ledge. (Applicant 2, response 29)
72. Pursuant to CGS § 16-50p(a)(3)(G), The nearest school or commercial child day care facility is the Governor William Pitkins School, approximately 2,043 feet northwest of the proposed facility. (Applicant 1, Tab 3C)
73. The nearest property boundary from the Site A tower is approximately 74 feet to the west (Smith property). The tower setback radius would extend onto the Smith property by 36 feet, based on a monopole height of 110 feet agl. (Applicant 5, Sheets A-1 and SP-1)
74. MCM would be willing to install a yield point on the tower, as necessary, to prevent the tower from encroaching upon the Smith property in the event of a tower failure. (Applicant 2, response 28; Tr. 1, pp. 46-47)

75. There are 104 residences within 1,000 feet of the Site A tower site. The nearest off-site residence is approximately 244 feet to east of the tower site (Currier residence). (Applicant 1, Tab 3A; Applicant 5, Sheet A-1)
76. Land use abutting Site A includes residential properties in all directions, including those across Hills Street to the north, with some wooded area and pasture/fields in the immediate area. (Applicant 2, response 27)
77. The site preparation phase of construction is expected to take three to four weeks. Installation of the tower would take an additional two weeks. Final grading and fencing would take approximately two weeks. After completion of construction, facility integration and system testing would take approximately two weeks before the site would be operational. (Applicant 1, p. 27)
78. The estimated construction cost of the proposed Site A facility* is:

Tower and Foundation	\$ 168,000.
Site Development	\$ 32,000.
Utility Installation	\$ 39,000.
Facility Installation	\$ 19,000.
<u>Antennas and Equipment</u>	<u>\$ 250,000.</u>
Total	<u>\$ 508,000.</u>

*This is based on the originally proposed 100-foot tower. The increase in height to 110 feet would increase these costs due to more steel for the monopole, as well as more faux tree branch material. (Applicant 1, p. 27; Tr. 1, pp. 15-16)

Facility Description – Alternate Site, Site B

79. Proposed Site B is located on a 5.38-acre parcel at 56 Hills Street in East Hartford. The parcel is owned by Kenneth and Michelle Dedominicis. The parcel is zoned Residential R-2. The Site B location is depicted on Figure 1. (Applicant 1, pp. 16-17)
80. The proposed Site A tower would be located in the central portion of the property at 41° 44' 30.45" north latitude and 72° 36' 8.74" west longitude at an elevation of 60 feet amsl. (Applicant 5, Sheet T-1)
81. The Site B facility would consist of a 110-foot monopole disguised as a tree with evergreen camouflage within a 100-foot by 100-foot leased area. The monopole would be 60 inches wide at the base tapering to 26 inches wide at the top. The evergreen "top" of the tree tower would reach 117 feet agl. The tower would be designed to support the EHFDA antennas and a total of three wireless carriers, including AT&T, with 10-foot center-to-center antenna separation. (Applicant 5, Sheets SP-1 and SP-2; Tr. 1, p. 15)
82. The monopole or "tree trunk" would be constructed of galvanized steel that would weather to a non-reflective gray finish. The tower would be constructed in accordance with the American National Standards Institute TIA/EIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structures." (Applicant 5, Sheet SP-2)

83. The tree monopole tower or monopine would be designed to be expandable up to twenty feet taller to accommodate two more wireless telecommunications carriers with 10-foot center to center antenna spacing. (Applicant 5, Sheet SP-2)
84. AT&T would install 12 panel antennas on a low-profile platform masked by the tower's artificial branches at a centerline height of 100 feet agl. (Applicant 5, Sheet SP-2; Tr. 1, p. 26)
85. Consistent with the Site A tower design, the Site B tower would be designed to accommodate EHFD's two-foot diameter microwave dish masked by the tower's artificial branches at a centerline height of 110 feet. A 4.4-foot tall whip antenna would be attached to the tower at the 110-foot agl level and would reach a total height of less than 117 feet. Thus, the top of the whip would not extend above the top of the faux tree top. (Applicant 5, Sheet SP-2; Tr. 1, p. 54)
86. A 50-foot by 50-foot equipment compound enclosed by an eight-foot shadow box fence would be established at the base of the tower. The size of the compound would be able to accommodate the equipment of a total of three wireless carriers including AT&T, plus the EHFD equipment. AT&T would install an 11-foot 6-inch by 20-foot equipment shelter. EHFD equipment would be installed on a 10-foot by 10-foot concrete pad. (Applicant 5, Sheet SP-2)
87. For backup power, AT&T would utilize a diesel generator. AT&T would also have a battery backup in order to avoid a "re-boot" condition during the generator start-up delay period. The typical run time of the generator before it requires refueling is 48 hours, based on 200 gallons of fuel available. In the event that the generator fails to start, the battery backup would provide approximately four to eight hours of backup power. (Applicant 2, responses 8 and 9)
88. Development of Site B would require approximately 51 cubic yards of cut for trenching, 40 cubic yards of net cut and 135 cubic yards of crushed stone for the access drive and compound. (Applicant 1, Tab 4A)
89. Access to Site B would be provided by an existing and proposed 12-foot wide and approximately 519-foot long gravel access drive beginning at Hills Street and ending at the proposed equipment compound. (Applicant 1, Tab 3; Applicant 5, Sheet SP-1)
90. Utilities would be run overhead from a pole on Hills Street to an existing pole on the subject property. Utilities would then continue underground from that pole to the equipment compound. The underground utilities would generally follow the path of the access drive. (Applicant 5, Sheet SP-1; Tr. 2, pp. 10-11)
91. The presence of ledge is not anticipated, but would be confirmed upon completion of a geotechnical investigation. If ledge is encountered, removal by mechanical means would be performed first. If mechanical means are unsuccessful, blasting would be utilized as required to remove the ledge. (Applicant 2, response 46)
92. Pursuant to CGS § 16-50p(a)(3)(G), The nearest school or commercial child day care facility is the Joseph O. Goodwin School, approximately 1,125 feet southwest of the proposed facility. (Applicant 1, Tab 4C)
93. The nearest property boundary from the Site B tower is approximately 104 feet to the east (Landry property). The tower setback radius would extend onto the Landry property by 6 feet, based on a monopole height of 110 feet. (Applicant 5, Sheets A-1 and SP-1)

94. MCM would be willing to install a yield point on the tower, as necessary, to prevent the tower from encroaching upon the Landry or Rodgers property in the event of a tower failure. (Applicant 2, response 45)
95. There are 211 residences within 1,000 feet of the Site B tower site. The nearest off-site residence is approximately 156 feet to east of the tower site (Johnson residence). (Applicant 1, Tab 4A; Applicant 5, Sheet A-1)
96. Land use abutting Site B includes residential properties in all directions, including those across Hills Street to the south. (Applicant 2, response 44)
97. The site preparation phase of construction is expected to take three to four weeks. Installation of the tower would take an additional two weeks. Final grading and fencing would take approximately two weeks. After completion of construction, facility integration and system testing would take approximately two weeks before the site would be operational. (Applicant 1, p. 27)
98. The estimated construction cost of the proposed Site B facility* is:

Tower and Foundation	\$ 168,000.
Site Development	\$ 32,000.
Utility Installation	\$ 39,000.
Facility Installation	\$ 19,000.
<u>Antennas and Equipment</u>	<u>\$ 250,000.</u>
Total	<u>\$ 508,000.</u>

*This is based on the originally proposed 100-foot tower. The increase in height to 110 feet would increase these costs due to more steel for the monopole, as well as more faux tree branch material. (Applicant 1, p. 27; Tr. 1, pp. 15-16)

Environmental Considerations

99. The proposed facilities would have no effect upon historic properties. (Applicant's Post-Hearing Submission dated June 25, 2013 – Attachment 1)
100. The Eastern Box Turtle, a State-designated Species of Special Concern, may exist in the vicinity of the proposed Site A and Site B towers. (Applicant 1, p. 16 and Tab 3B; Tr. 1, p. 16)
101. An Eastern Box Turtle Protection Program (EBTPP) would be implemented during construction to protect this Species of Special Concern. This Program includes isolation of the work zone from surrounding habitat, contractor education about the sensitive nature of the project and potential for encountering the eastern box turtle, requirements to report sightings, and monitoring erosion and sedimentation controls. With such measures taken, development of the site is not expected to have an adverse impact on the eastern box turtle. (Applicant 1, Tab 3B; Tr. 1, pp. 16-17; Applicant's Post-Hearing Submission dated June 25, 2013 – Attachment 2)

102. The number of trees with a diameter of six inches or more at breast height that would be removed for the construction of the facilities is listed below.

Site	Number of trees to be removed
Site A	10
Site B	2

(Applicant 1, Tabs 3A and 4A; Applicant 5, Sheet SP-1)

103. Soil erosion control measures and other best management practices would be established and maintained throughout the construction of either site and would be consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*. (Applicant 1, pp. 25-26)
104. The Site A property contains one wetland 175 feet to the north of the proposed tower and one wetland 700 feet to the south. The Site B property has one wetland approximately 390 feet north of the proposed tower. No adverse impact is expected at either site given erosion and sedimentation control measures that would be employed during the construction process as well as the distances from the wetlands to the tower sites. (Applicant 1, pp. 25-26 and Tabs 3D and 4D)
105. Obstruction marking and lighting would not be required for the Site A or Site B tower. (Applicant 1, Tab 4B; Applicant 2, response 25, Attachment 3; Tr. 1, pp. 14-15)
106. The cumulative worst-case maximum power density from the radio frequency emissions from the operation of AT&T's and EHF's proposed antennas is 24.2% of the standard for Maximum Permissible Exposure, as adopted by the FCC, at the base of either the Site A or Site B tower. This calculation was based on methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997) that assumes all antennas would be pointed at the base of the tower and all channels would be operating simultaneously, which creates the highest possible power density levels. Under normal operation, the antennas would be oriented outward, directing radio frequency emissions away from the tower, thus resulting in significantly lower power density levels in areas around the tower. (Applicant 5, Attachment 5; Council Administrative Notice 2)
107. The proposed backup generator would meet the applicable noise standards at the property lines. If necessary, the Applicant would utilize baffling, attenuation systems, engineering controls, etc., to ensure compliance. (Tr. 1, p. 17)

Visibility

108. The projected visibility of the proposed towers* within a two-mile radius of each site is as follows:

Receptor	Site A	Site B
Year-round visibility (acres)	32	31
Additional seasonal visibility (acres)	165	125
Residential properties with year-round views	56	77
Additional residential properties with seasonal views	78	220

*This is based on the original tower height of 100 feet agl (i.e. total height of 107 feet agl). (Applicant 5, Attachments 2 and 4;)

109. For either Site A or Site B, the computer model used for the viewshed analysis originally predicted approximately 40 additional acres of visibility area associated with the increase in tower height from 100 feet agl to 110 feet agl (i.e. total height of 117 feet agl). However, upon field checking the results based on a balloon flight, the additional acreage is scattered and not visible from the areas inspected. As a result, the 40 additional acres is not considered valid; thus, there is not an appreciable difference between the visibility areas based on 100 feet agl and 110 feet agl. (Tr. 1, pp. 20-23)
110. Similarly, no significant change in the number of the homes with visibility (seasonal or year-round) of Site A or Site B is expected based on the increase in tower height from 100 feet agl to 110 feet agl. (Tr. 1, pp. 24-25)
111. The visibility of Site A at the proposed height of 110 feet (i.e. total height of 117 feet) from specific locations within a two-mile radius of the site is presented in the table below.

Location	Approximate visibility at 110 feet	Distance & direction to site
1. 414 Hills Street	34 feet - between trees	0.18 miles SE
2. 47 Sunrise Lane	30-feet seasonally visible through trees	0.27 miles SW
3. 15 Davis Road	35-feet seasonally visible through trees	0.29 miles SW
4. 530 Hills Street	38 feet - between trees	0.22 miles SW
5. 120 Herbert Drive	52 feet - between trees	0.11 miles W
6. Wickham Drive and Herbert Drive	30 feet - between trees	0.07 miles W
7. 62 Herbert Drive	Not visible	0.18 miles NW
8. 210 Country Lane	Not visible	0.32 miles N
9. 6 Eagle Street	20 feet - between trees	0.12 miles NE
10. Eagle Court cul-de-sac	16 feet - between trees	0.08 miles NE
11. Westerly Terrace and Heron Road	10 feet -seasonally visible through trees	0.20 miles NE
12. Our Lady of Peace	10 feet -seasonally visible through trees	0.32 miles NE
13. Brandon Road and May Road	10 feet -seasonally visible through trees	0.39 miles NE

(AT&T 1, Tab 3C; Applicant 5; Tr. 1, pp. 25-26)

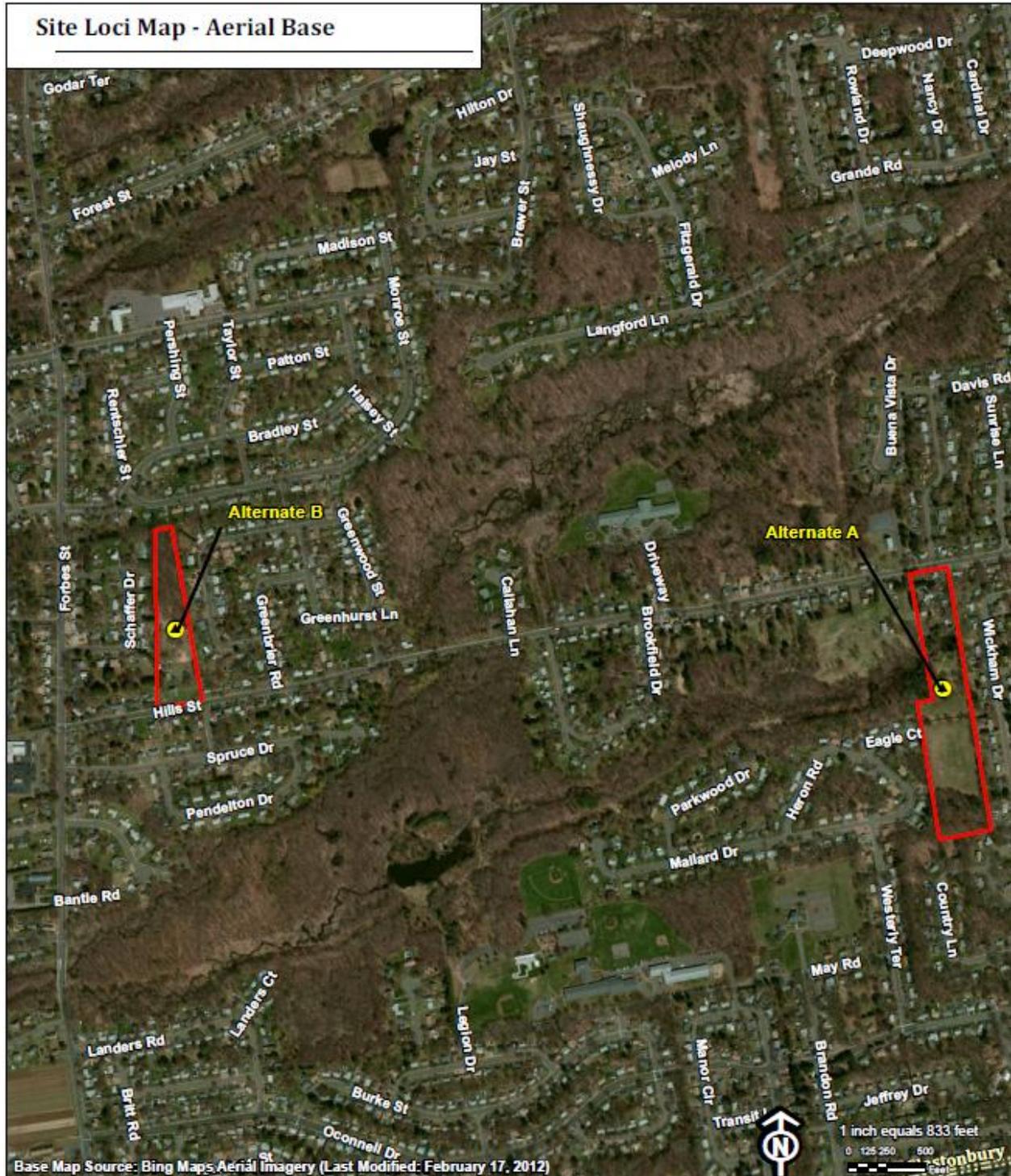
112. The visibility of Site B at the proposed height of 110 feet (i.e. total height of 117 feet) from specific locations within a two-mile radius of the site is presented in the table below.

Location	Approximate visibility at 110 feet	Distance & direction to site
1. 56 Hills Street	41 feet - above trees	0.1 miles N
2. Hills Street	45 feet - above trees	0.13 miles NW
3. Hills Street	52 feet - between trees	0.19 miles NW
4. Glenwood Street	20 feet – between trees	0.25 miles NW
5. Glenhurst Lane and Greenbrier Road	34 feet between trees	0.18 miles SW
6. Greenwood Street	74 feet between trees	0.07 miles NW
7. 122 Greenwood Street	27 feet – above trees	0.16 miles SW
8. Joseph O. Goodwin School	Not visible	0.23 miles NE
9. 25 Schaffer Drive	54 feet between trees	0.08 miles NE

(AT&T 1, Tab 4C; Applicant 5; Tr. 1, pp. 25-26)

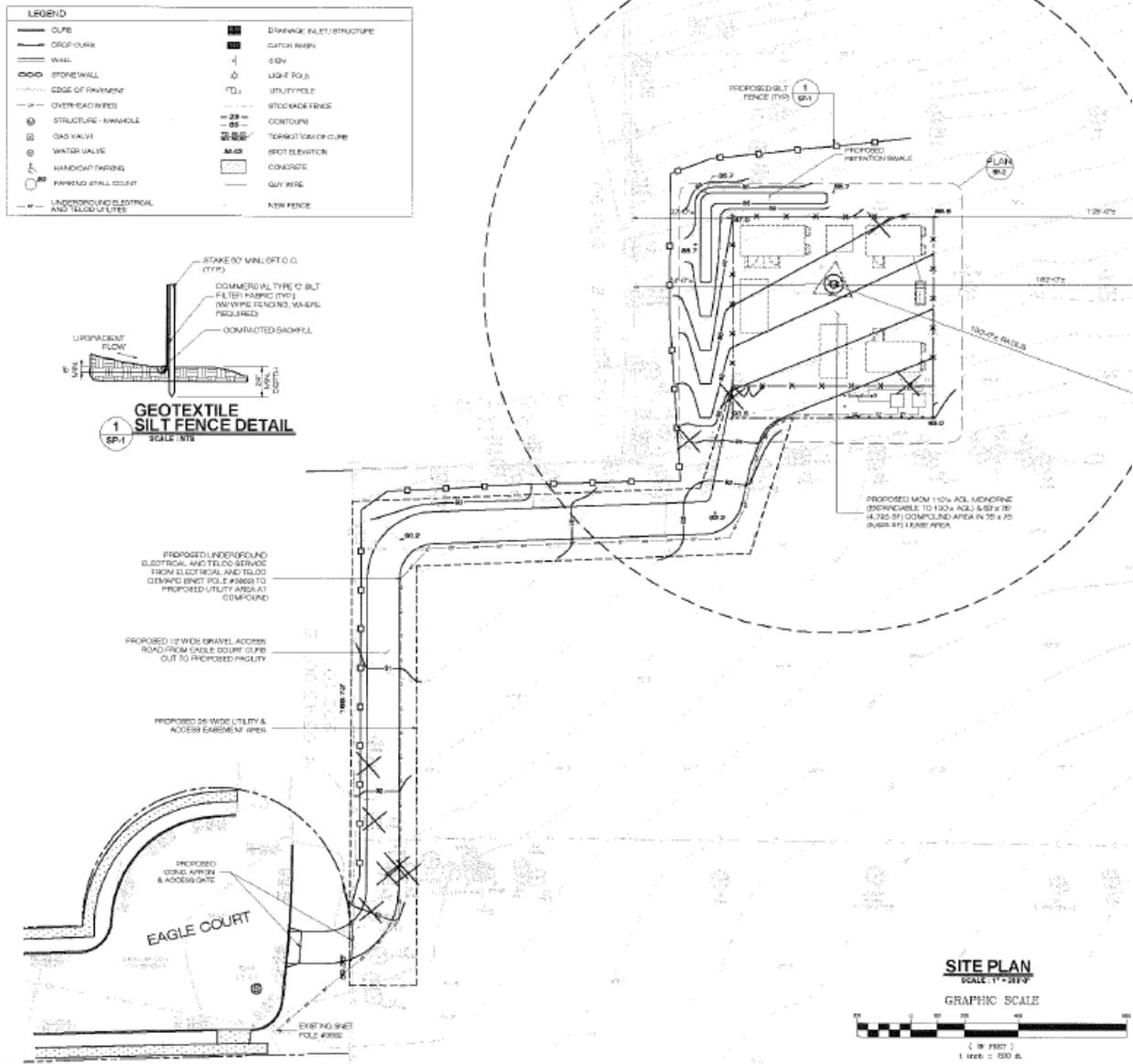
113. The Applicant could design a “flat top” tree to eliminate the 7-foot “tree top.” (Tr. 1, p. 59)
114. The Applicant did consider other stealth tower designs such as a flagpole, but rejected that design because it limits co-location opportunities. (Tr. 1, p. 26)
115. The shadow box fencing would have staggered slats to block views of the ground equipment. (Tr. 1, pp. 15-16)

Figure 1: Aerial Map of Site A and Site B



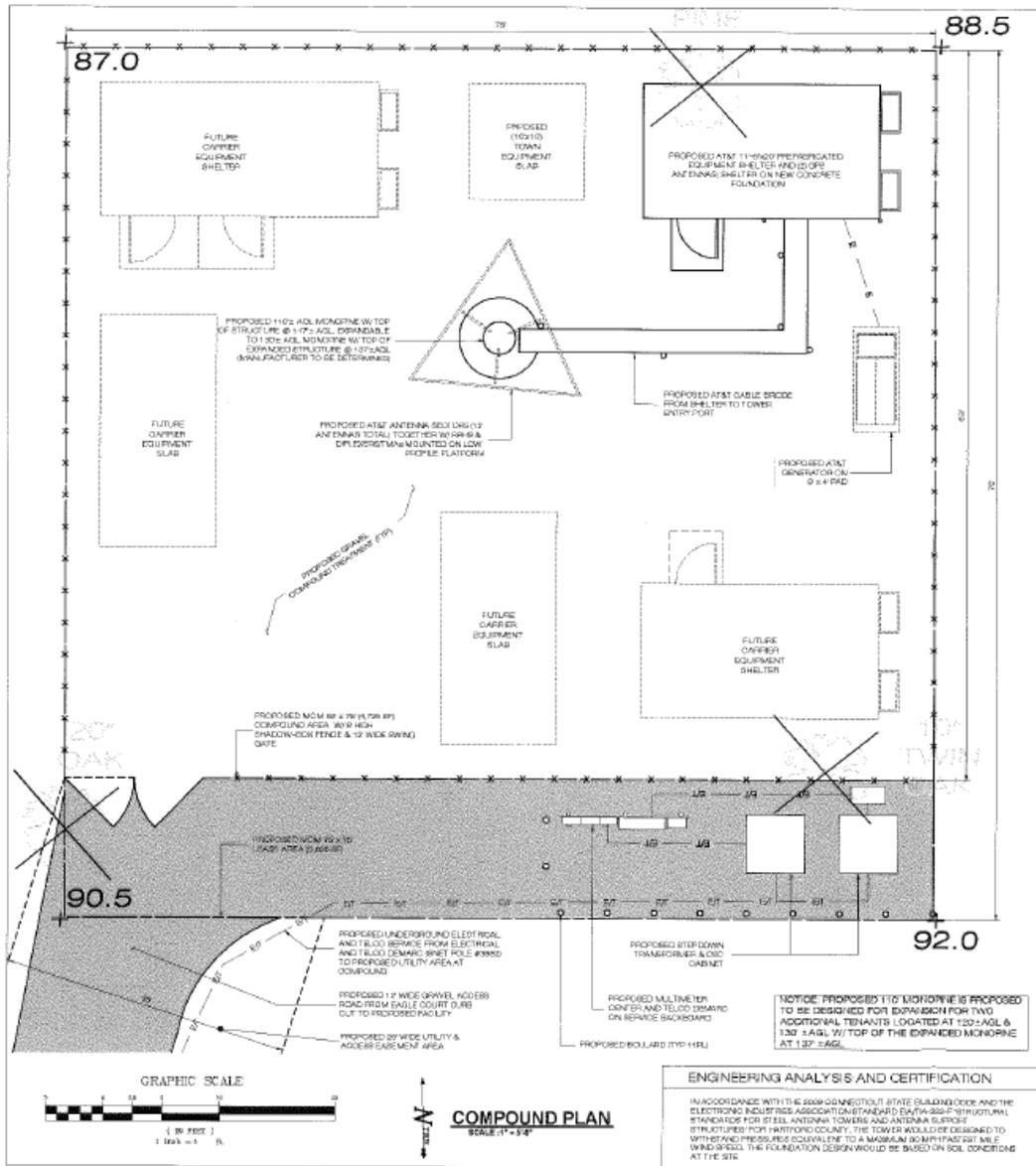
(Applicant 1, Tab 3A)

Figure 2: Site Plan for Site A



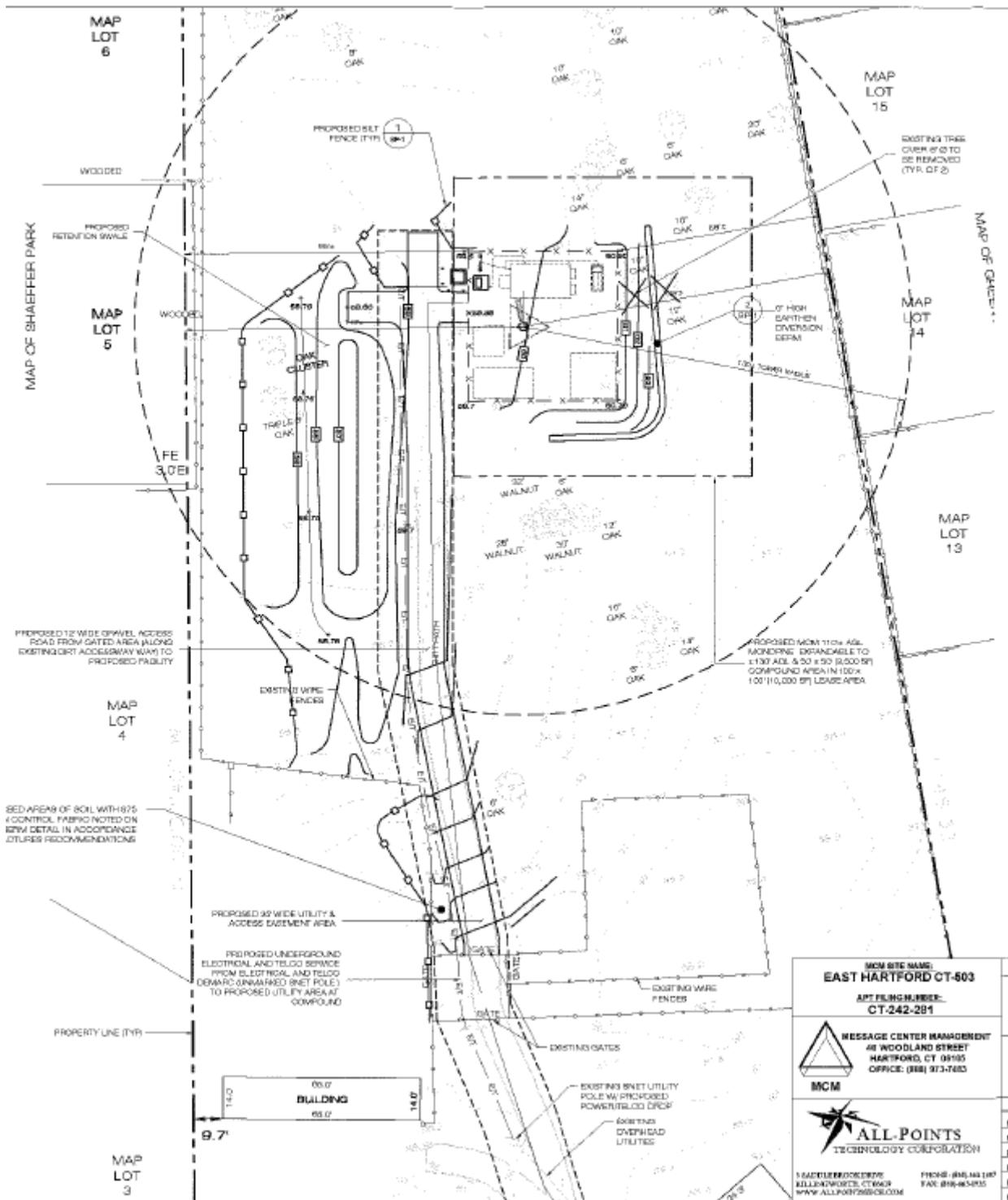
(Applicant 5)

Figure 3: Compound Plan for Site A



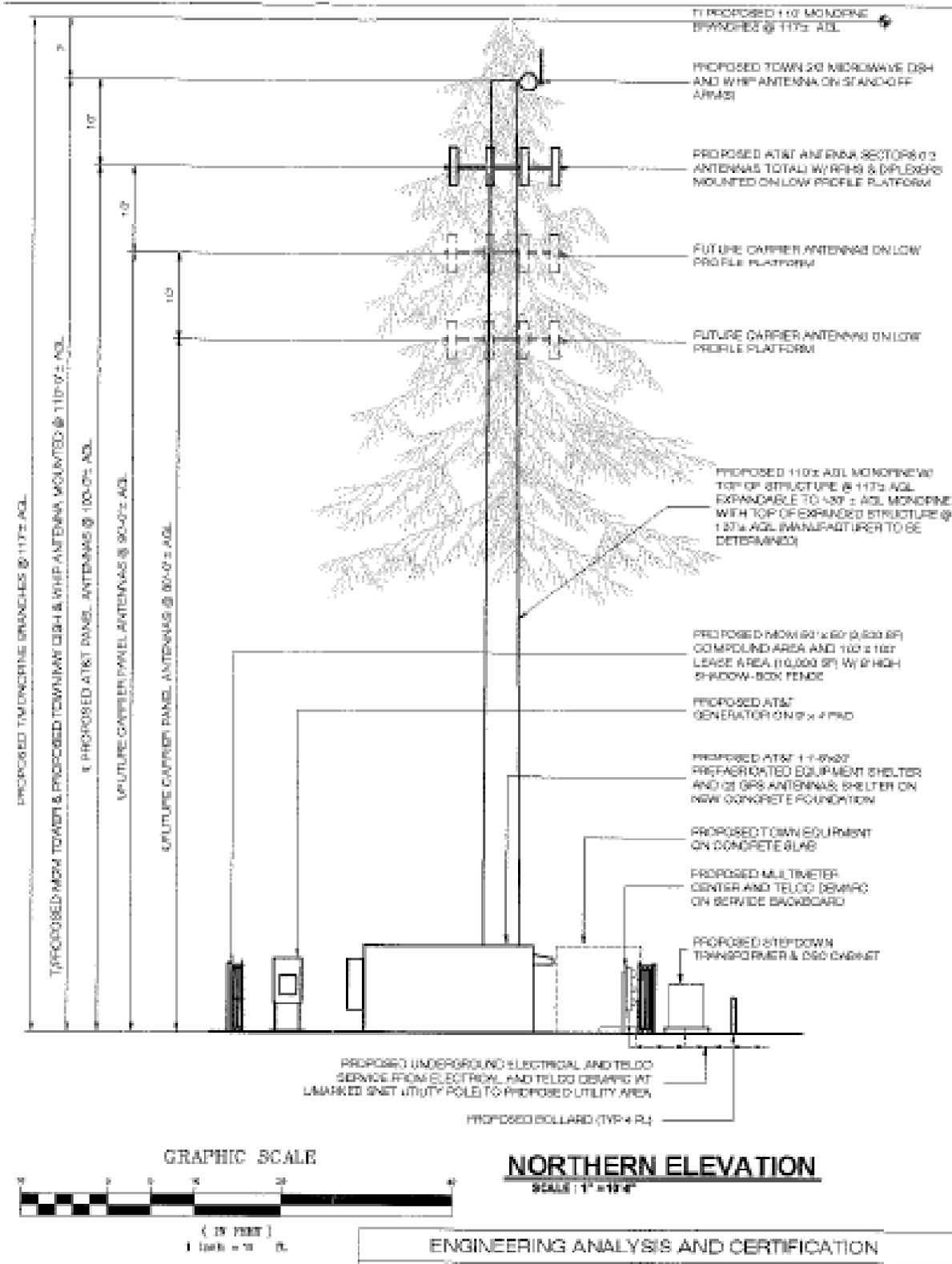
(Applicant 5)

Figure 5: Site Plan for Site B



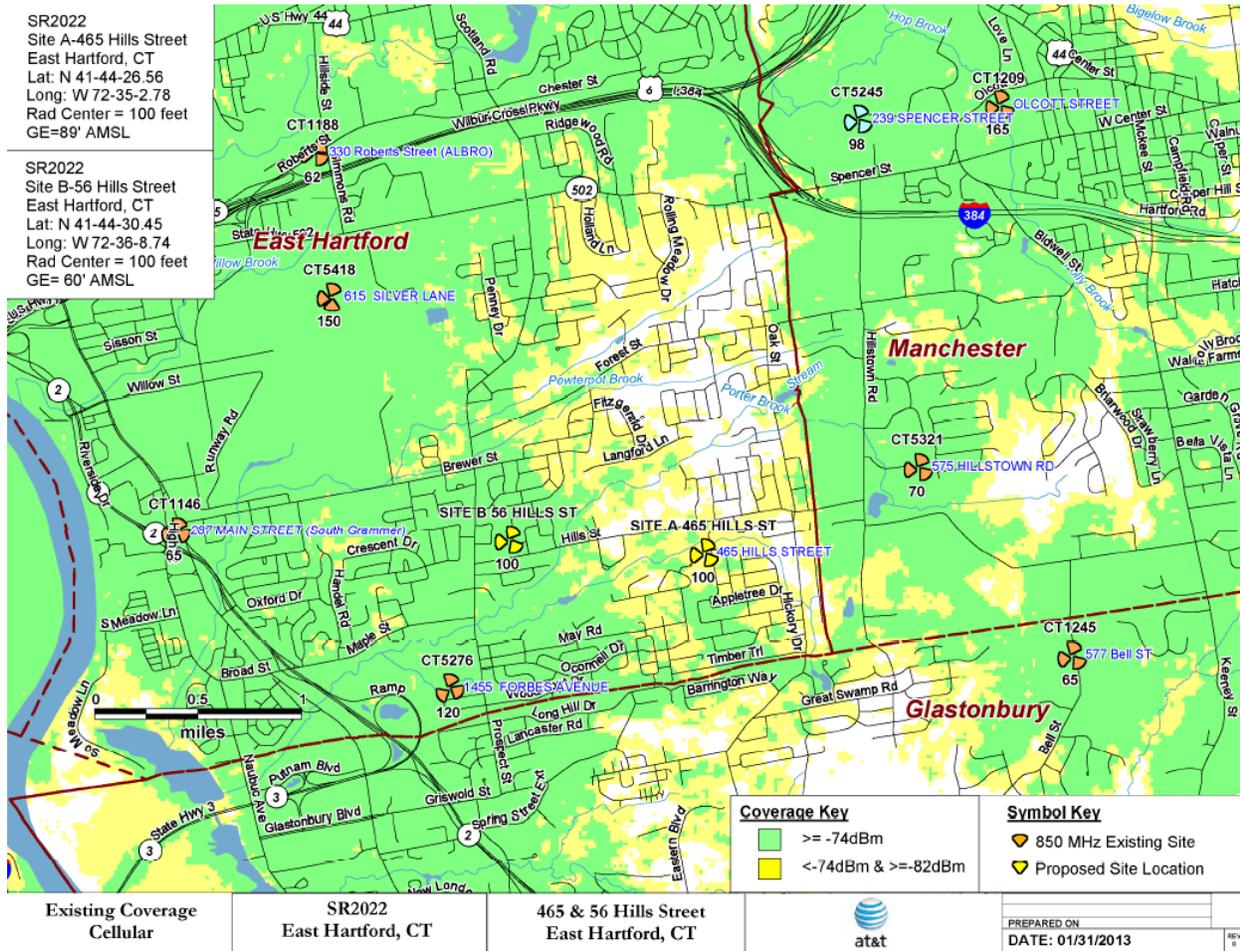
(Applicant 5)

Figure 7: Tower Elevation Drawing for Site B



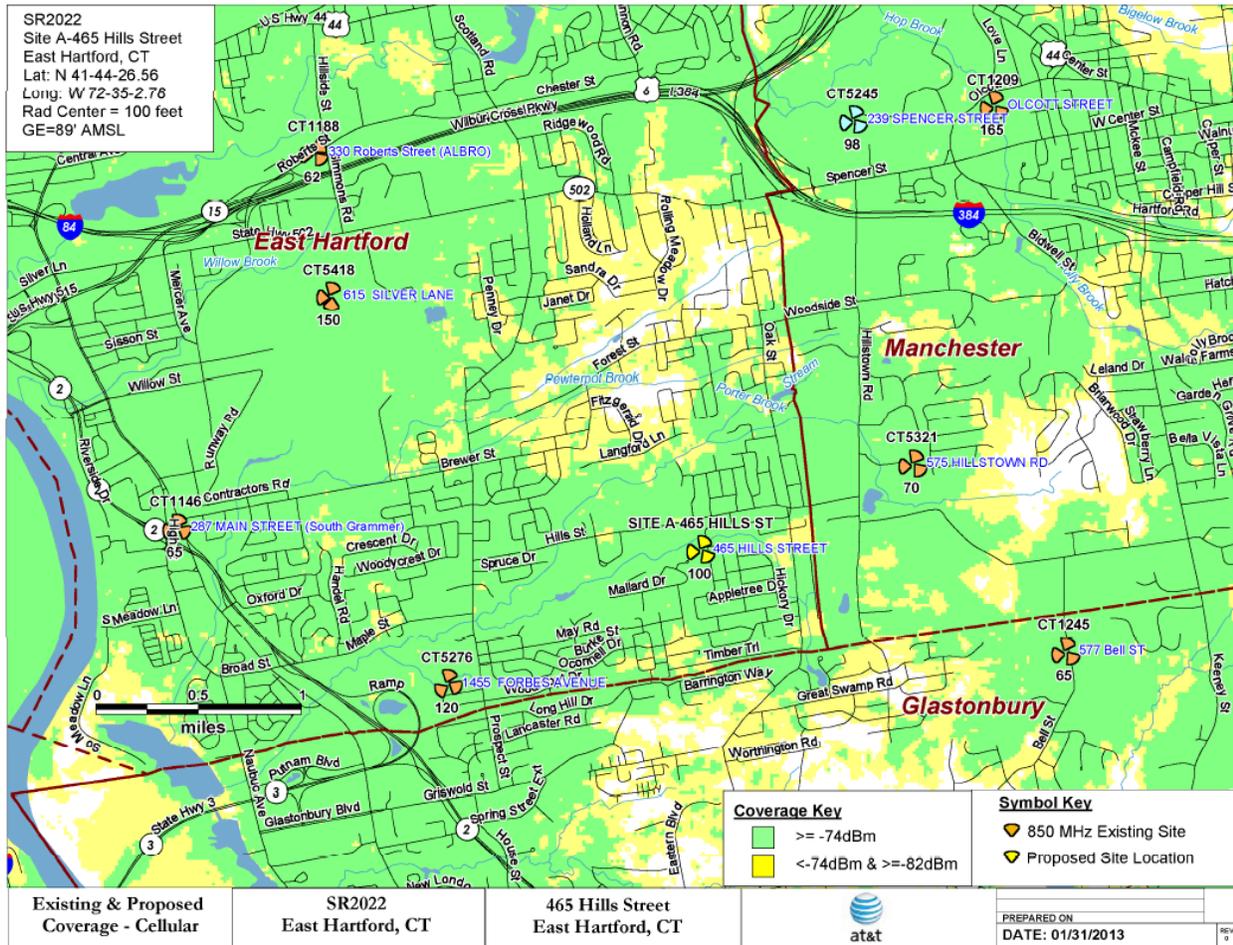
(Applicant 5)

Figure 8: Existing Coverage without Site A or Site B



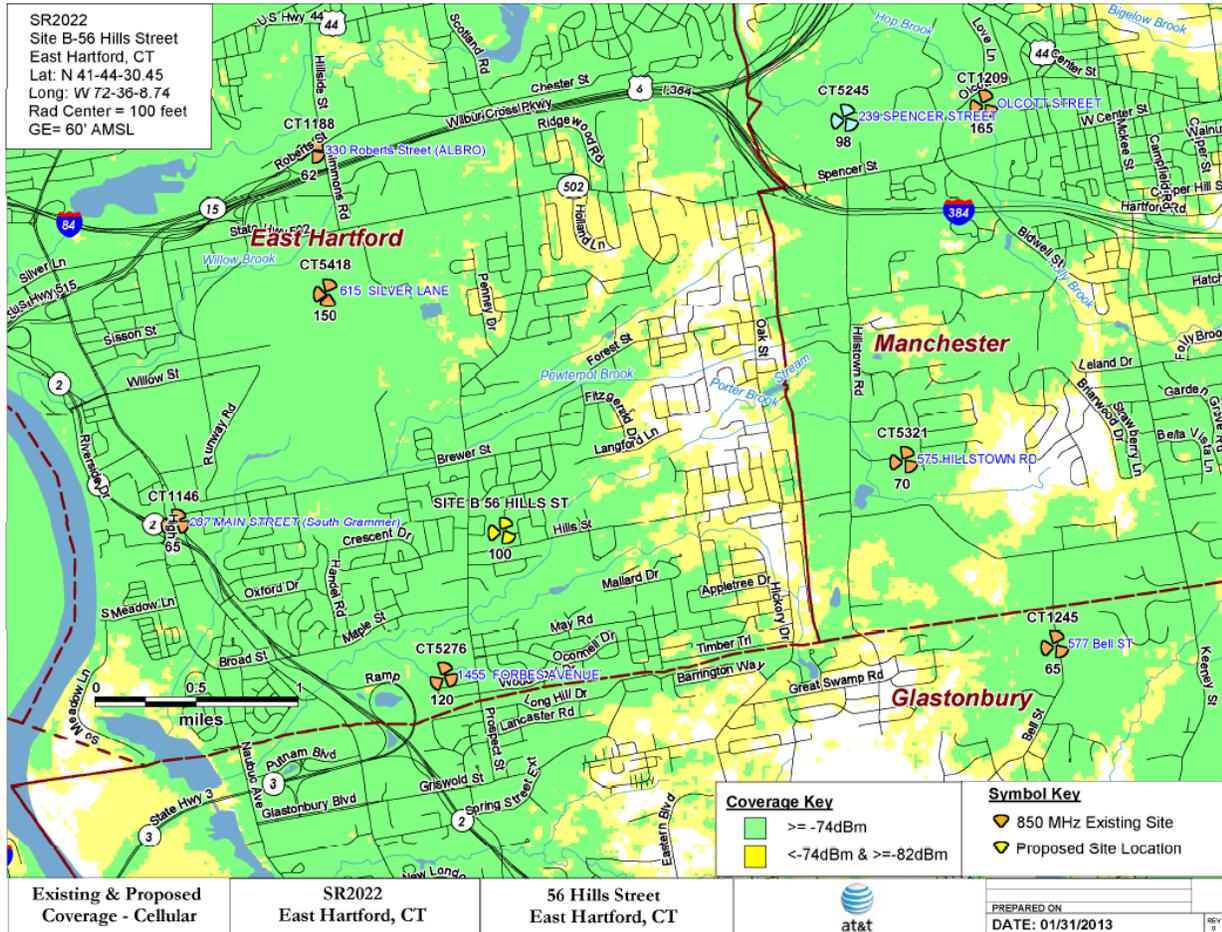
(Applicant 1, Tab 1)

Figure 9: Existing and Proposed Coverage for Site A



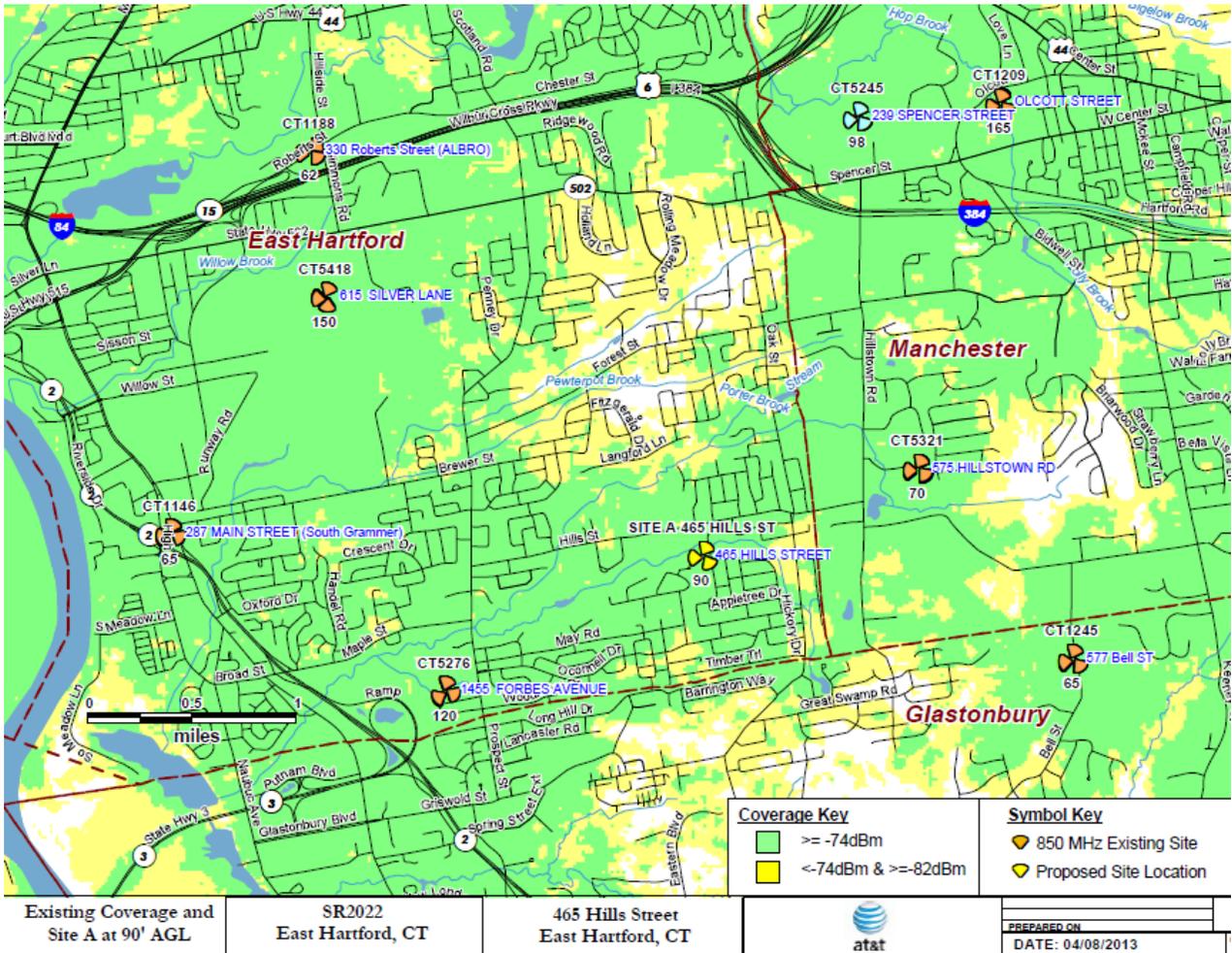
(Applicant 1, Tab 1)

Figure 10: Existing and Proposed Coverage for Site B



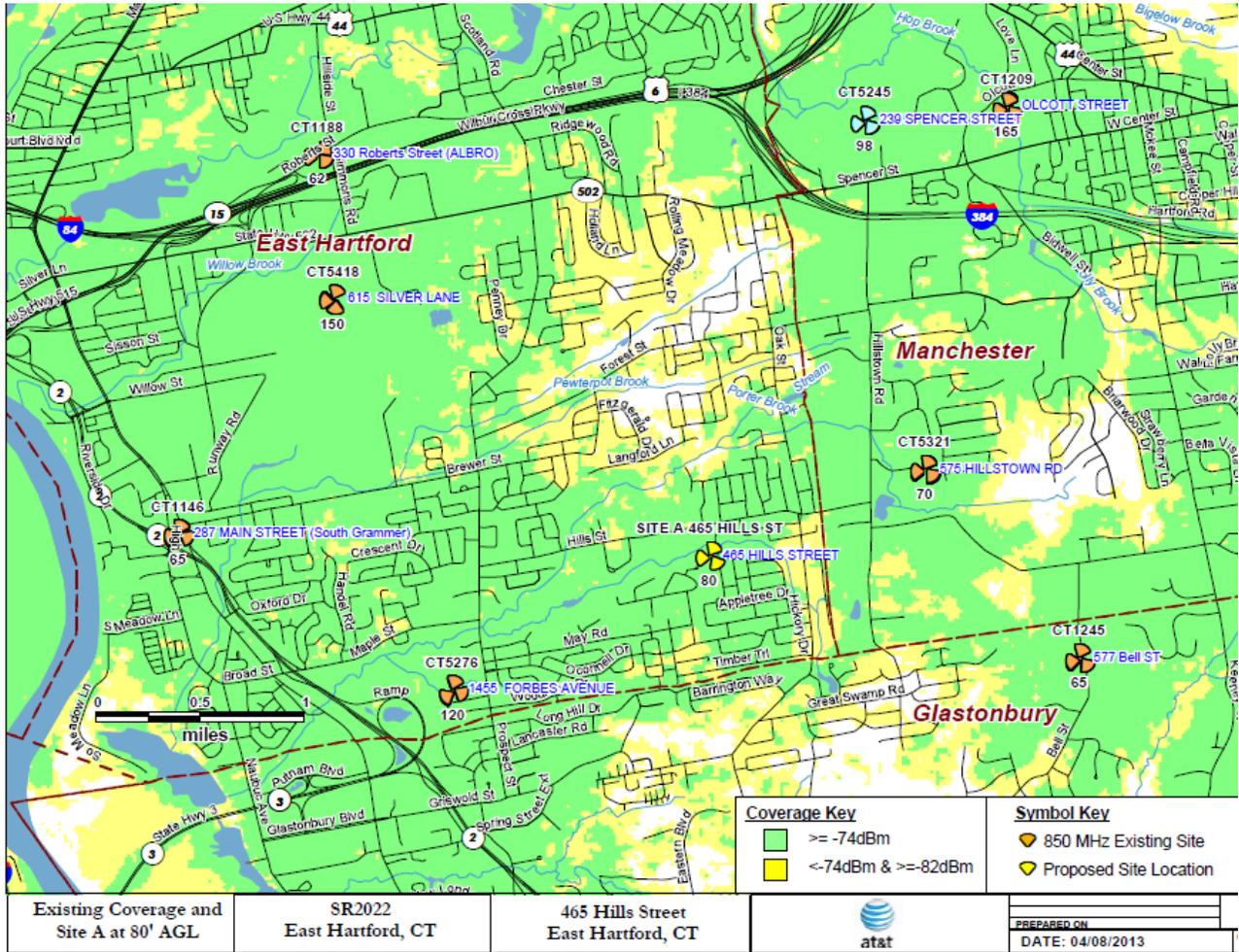
(Applicant 1, Tab 1)

Figure 11: Existing and Proposed Coverage for Site A with AT&T's antennas at 90 feet



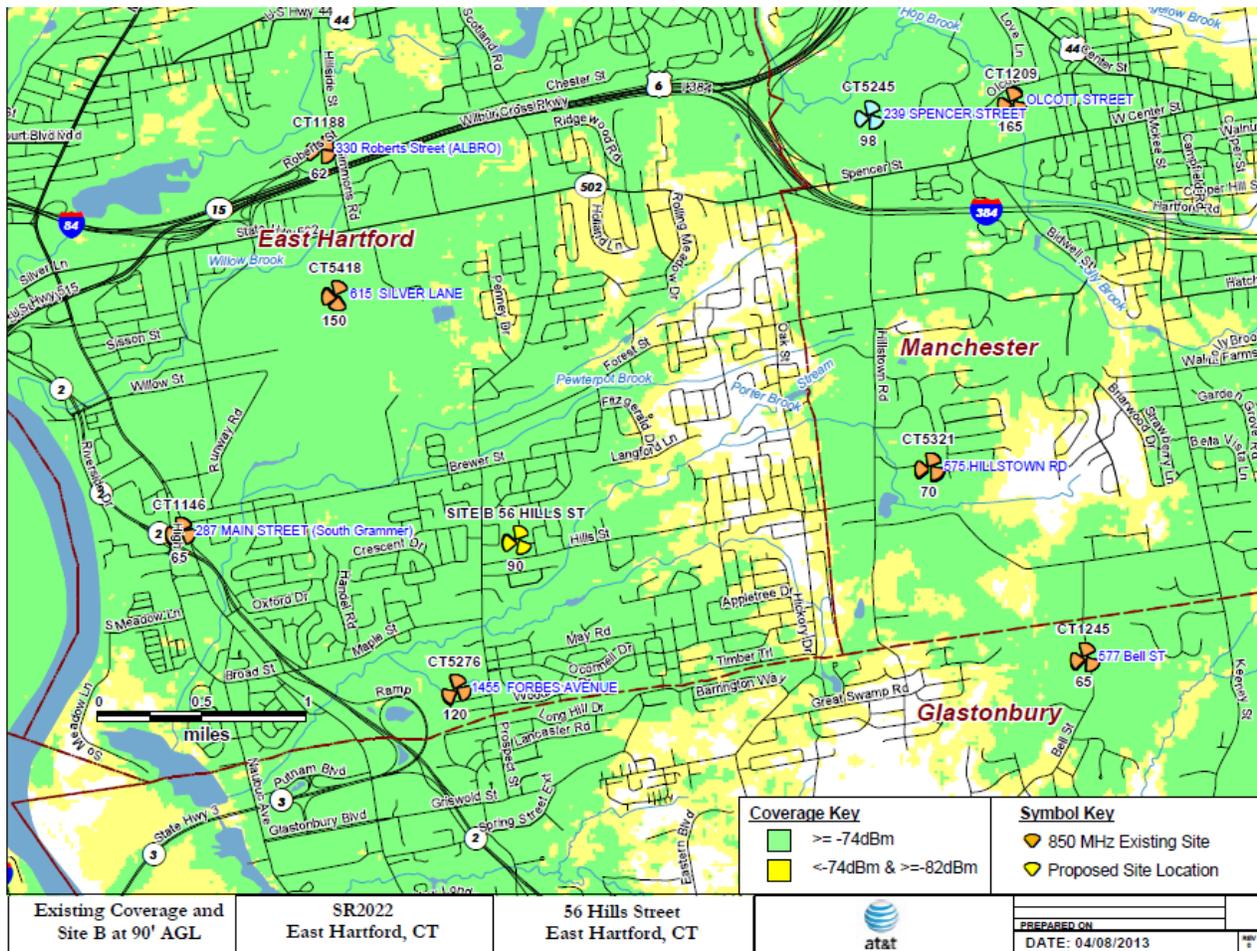
(Applicant 2, response 23)

Figure 12: Existing and Proposed Coverage for Site A with AT&T's antennas at 80 feet



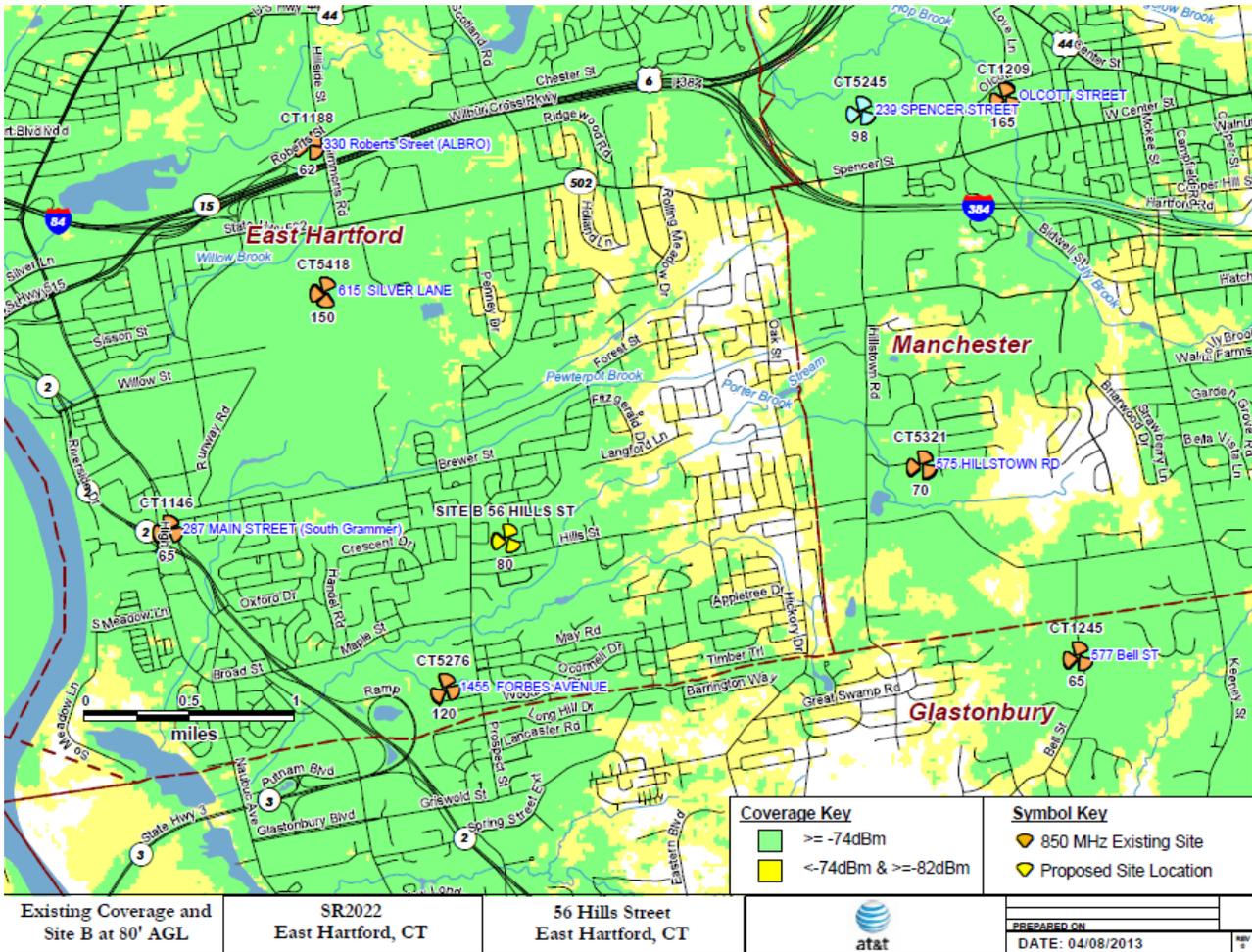
(Applicant 2, response 23)

Figure 13: Existing and Proposed Coverage for Site B with AT&T's antennas at 90 feet



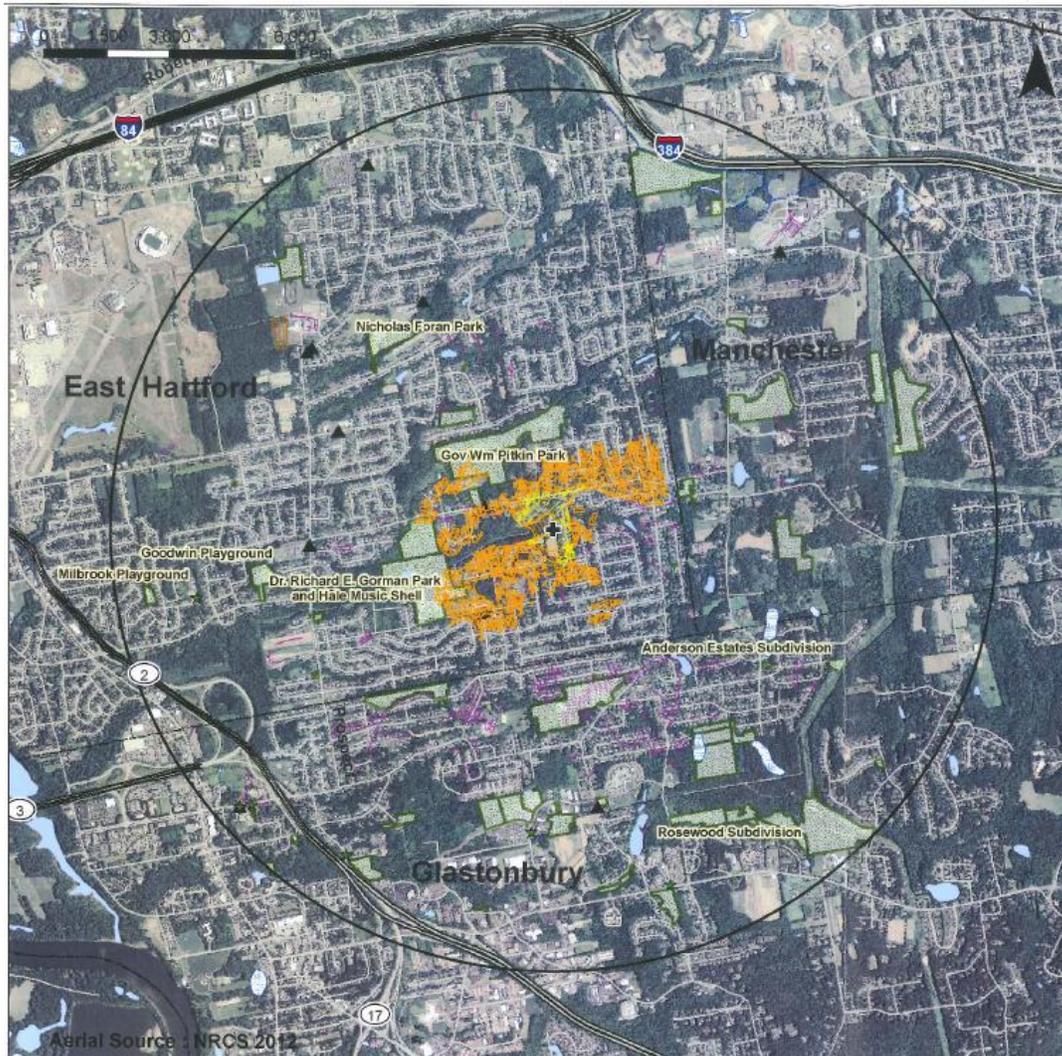
(Applicant 2, response 41)

Figure 14: Existing and Proposed Coverage for Site B with AT&T's antennas at 80 feet



(Applicant 2, response 41)

Figure 15: Site A Viewshed Map



Legend

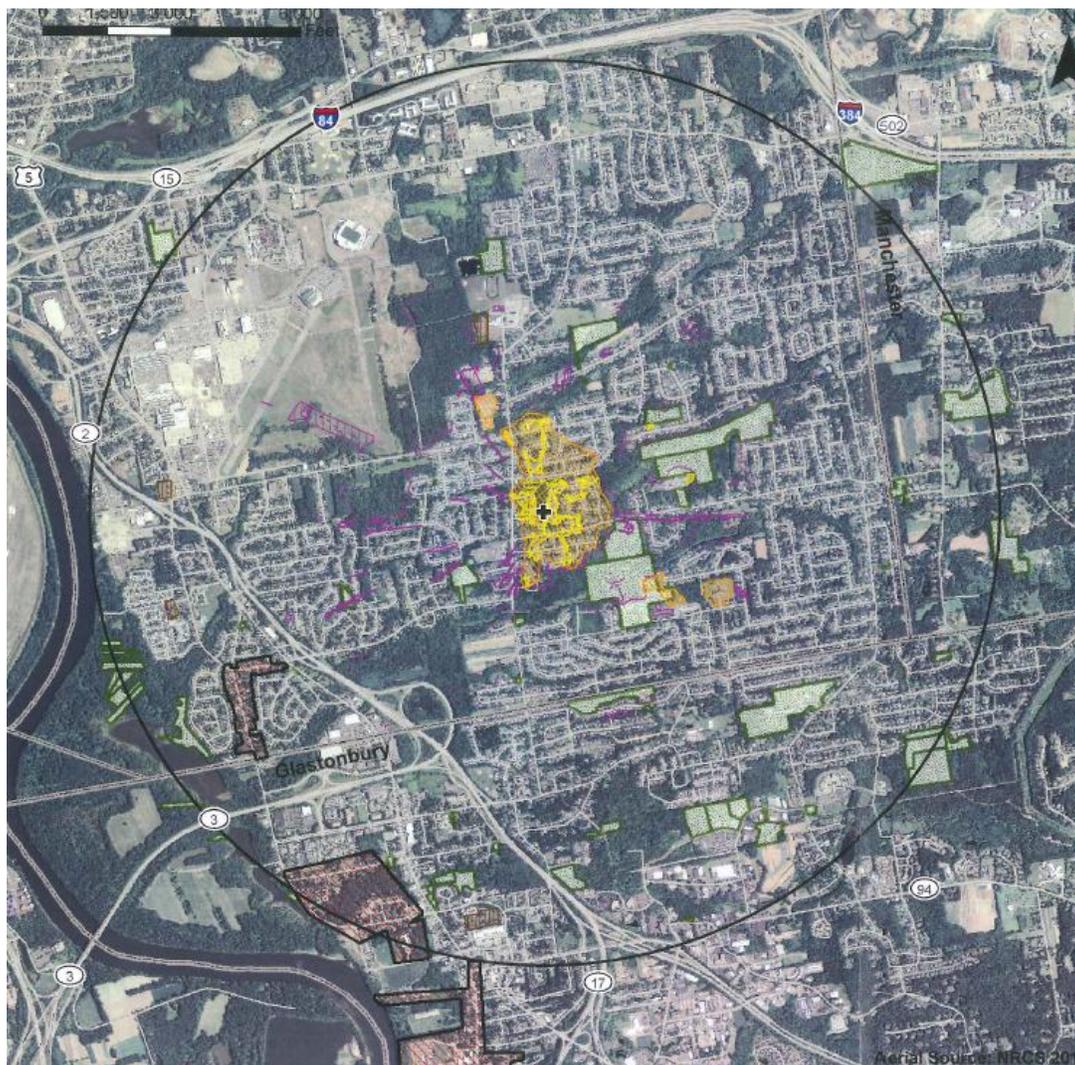
- ✚ Proposed Tower
- 2-Mile Study Area
- ▨ Predicted Seasonal Visibility (107-foot tall Facility)
- ▧ Predicted Year-Round Visibility (107-foot tall Facility)
- ▩ Predicted Year-round Visibility (117-foot tall Facility)
- ★ Commercial Child Day Care Centers
- ▲ Schools
- Open Water
- Swamp Marsh
- Trails
- Municipal Private Open Space
- Protected Open Space



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(Applicant 5)

Figure 16: Site B Viewshed Map



Legend

- ✚ Proposed Tower
- ▨ Predicted Year-Round Visibility (107-foot tall Facility)
- ▨ Predicted Seasonal Visibility (107-foot tall Facility)
- ▨ Predicted Year-round Visibility (117-foot tall Facility)
- 2-Mile Study Area
- ▨ National Register
- ▨ Private
- ▨ Protected Open Space(f)
- Trails
- Town



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(Applicant 5)